

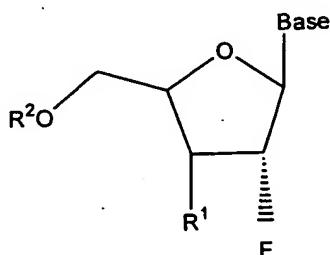
3. The compound of claim 2, wherein the purine base is selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

4. The compound of claim 1, wherein the base is a pyrimidine base, R² is H,

5 monophosphate, diphosphate, triphosphate or acyl, or a pharmaceutically acceptable salt thereof.

5. The compound of claim 5, wherein the base is selected from the group consisting of thymine, cytosine, 5-methylcytosine, uracil, and 5-fluorouracil, or a pharmaceutically acceptable salt thereof.

10 6. A pharmaceutical composition comprising an effective treatment amount of the compound of the formula:



15

wherein

Base is a purine or pyrimidine base;

R¹ is OH, H, OR³, N₃, CN, halogen, including F, or CF₃, lower alkyl, amino,

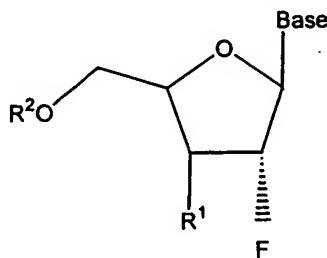
loweralkylamino, di(lower)alkylamino, or alkoxy, and base refers to a purine or pyrimidine base;

20 R² is H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug; acyl, or other pharmaceutically acceptable leaving group which when

administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate;

sulfonate ester including alkyl or arylalkyl sulfonyl including methanesulfonyl, benzyl, wherein

2. A method for the treatment of hepatitis C infection in humans, comprising administering to a patient in need thereof an effective treatment amount of the compound of the formula:



10 wherein

Base is a purine or pyrimidine base;

R¹ is OH, H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino, di(lower)alkylamino, or alkoxy, and base refers to a purine or pyrimidine base;

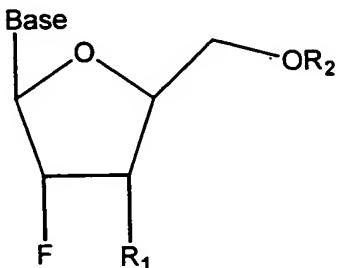
R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*,

15 is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

20 R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

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3. A method for the treatment of abnormal cell proliferation in humans, comprising administering to a patient in need thereof an effective treatment amount of a 2'fluoro- β -L-nucleoside of the formula:



wherein

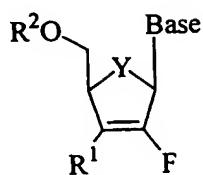
10 Base is a purine or pyrimidine base;

R¹ is OH, H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino, di(lower)alkylamino;

15 R² is H, phosphate, including monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or 20 cholesterol; and

R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

4. A 2'-fluoro-(β -D or β -L)-nucleoside of the formula:



wherein

Base is a purine base;

R^1 is H, OR^3 , N_3 , CN , halogen, CF_3 , lower alkyl, amino, loweralkylamino or di(lower)alkylamino;

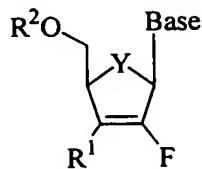
R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

5. The compound of claim 4, wherein the base is a purine base, R^2 is H, monophosphate, diphosphate, triphosphate or acyl, or a pharmaceutically acceptable salt thereof.

6. The compound of claim 4, wherein the purine base is selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

10 7. A pharmaceutical composition comprising an effective treatment amount of a 2'-fluoro-
(β -D or β -L)-nucleoside of the formula:



wherein

Base is a purine base;

15 R^1 is H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino or di(lower)alkylamino;

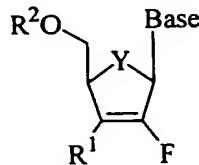
R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

20 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a

5 pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

8. The composition of claim 7, wherein the base is a purine base selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

10 9. A method for the treatment of hepatitis B infection comprising administering to a host in need thereof an effective treatment amount of a 2'-fluoro-(β -D or β -L)-nucleoside of the formula:



15 Y= S, CH₂ or CHF

wherein

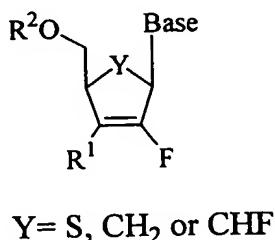
Base is a purine base;

R¹ is H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino or di(lower)alkylamino;

20 R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug; acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino,

5 arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and
0 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

10. A method for the treatment of hepatitis C infection comprising administering to a host in need thereof an effective treatment amount of a 2'-fluoro-nucleoside of the formula:



15 wherein

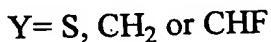
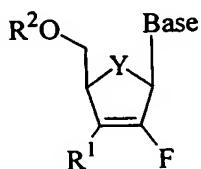
Base is a purine or pyrimidine base;

R^1 is H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino or di(lower)alkylamino;

R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

5 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

10 11. A method for inhibiting the replication of HIV comprising administering to a host in need thereof an effective treatment amount of a 2'-fluoro-(β -D or β -L)-nucleoside of the formula:



wherein

15 Base is a purine base;

R^1 is H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino or

di(lower)alkylamino;

R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl,

or other pharmaceutically acceptable leaving group which when administered *in vivo*,

20 is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester,

benzyl, wherein the phenyl group is optionally substituted with one or more

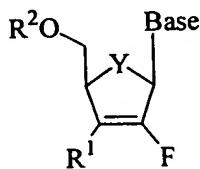
substituents selected from the group consisting of hydroxyl, amino, alkylamino,

arylarnino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid,

phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

5 R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

10 12. A method for the treatment of abnormal cell proliferation in humans comprising administering to a host in need thereof an effective treatment amount of a 2'-fluoro-nucleoside of the formula:



Y = O, S, CH₂ or CHF

wherein

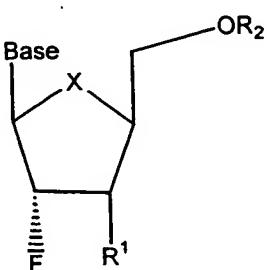
15 Base is a purine or pyrimidine base;

R¹ is H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino or di(lower)alkylamino;

16 R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

5 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

10 13. A 2'-fluoro- β -L-nucleoside of the formula:



wherein

X is S;

Base is a purine base;

15 R^1 is OH, H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino, or di(lower)alkylamino;

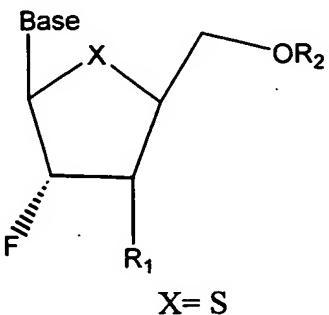
R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

5 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

10 14. The compound of claim 13, wherein the base is a purine base, R^2 is H, monophosphate, diphosphate, triphosphate or acyl, or a pharmaceutically acceptable salt thereof.

15 15. The compound of claim 14, wherein the purine base is selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

16. A pharmaceutical composition comprising an effective treatment amount of a 2'-fluoro- β -L-nucleoside of the formula:



20 wherein

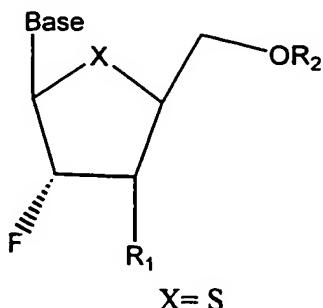
Base is a purine base;

R^1 is OH, H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino, di(lower)alkylamino;

5 R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, 10 arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a 15 pharmaceutically acceptable carrier.

17. The composition of claim 16, wherein the base is a pyrimidine base selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

20 18. A method for the treatment of hepatitis B infection comprising administering to a patient in need thereof an effective treatment amount of a 2'-fluoro- β -L-nucleoside of the formula:



5 wherein

Base is a purine base;

R¹ is OH, H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino,

di(lower)alkylamino;

R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug; acyl,

or other pharmaceutically acceptable leaving group which when administered *in vivo*,

is capable of providing a compound wherein R² is H or phosphate; sulfonate ester,

benzyl, wherein the phenyl group is optionally substituted with one or more

substituents selected from the group consisting of hydroxyl, amino, alkylamino,

arylarnino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid,

phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which

when administered *in vivo*, is capable of being cleaved to the parent compound, or a

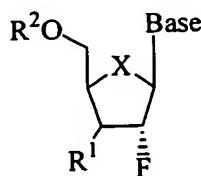
pharmaceutically acceptable salt thereof, optionally in combination with a

pharmaceutically acceptable carrier.

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19. A method for the treatment of hepatitis C infection comprising administering to a host in need thereof an effective treatment amount of a 2'-fluoro-(β -L)-nucleoside of the formula:



X = S, CH₂ or O

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wherein

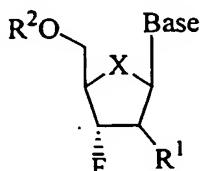
5 Base is a purine or pyrimidine base;

R¹ is OH, H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino or di(lower)alkylamino;

10 R² is H, monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug; acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

15 R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

20 20. A method for the inhibition of HIV comprising administering to a host in need thereof an effective treatment amount of a 2'-fluoro- β -L-nucleoside of the formula:



X = S

wherein

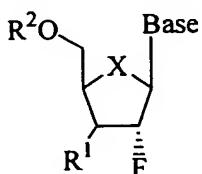
Base is a purine base;

5 R¹ is OH, H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino, or
di(lower)alkylamino;

10 R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug; acyl,
or other pharmaceutically acceptable leaving group which when administered *in vivo*,
is capable of providing a compound wherein R² is H or phosphate; sulfonate ester,
benzyl, wherein the phenyl group is optionally substituted with one or more
substituents selected from the group consisting of hydroxyl, amino, alkylamino,
arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid,
phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

15 R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which
when administered *in vivo*, is capable of being cleaved to the parent compound, or a
pharmaceutically acceptable salt thereof, optionally in combination with a
pharmaceutically acceptable carrier.

21. A method for the treatment of abnormal cellular proliferation in humans comprising
20 administering to a host in need thereof an effective treatment amount of a 2'-fluoro-
nucleoside of the formula:



wherein

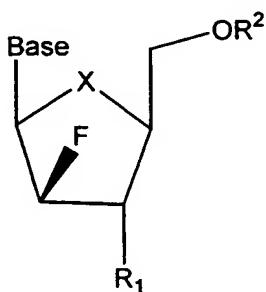
Base is a purine or pyrimidine base;

5 R¹ is OH, H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino, or
di(lower)alkylamino;

10 R² is H, monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

15 R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

22. A 2'-fluoro- β -L-nucleoside of the formula:



20 wherein

Base is a purine base;

5 R¹ is H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino, di(lower)alkylamino;

10 R² is H, monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

15 R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

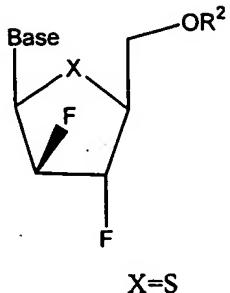
23. The compound of claim 22, wherein the base is a purine base, R² is H, monophosphate, diphosphate, triphosphate or acyl, or a pharmaceutically acceptable salt thereof.

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24. The compound of claim 23, wherein the purine base is selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

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5 25. A pharmaceutical composition comprising an effective treatment amount of a 2'-fluoro-
β-L-nucleoside of the formula:



wherein

Base is a purine base;

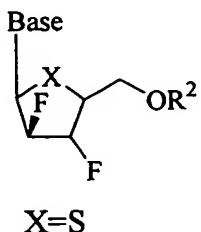
10 R^1 is H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino, di(lower)alkylamino;

15 R^2 is H, monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

20 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier.

5 26. The composition of claim 25, wherein the base is a purine base selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

10 27. A method for the treatment of hepatitis B infection comprising administering to a host in need thereof an effective treatment amount of a 2'- β -fluoro- β -L-nucleoside of the formula:



wherein

Base is a purine base;

15 R^1 is OH, H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino, or di(lower)alkylamino;

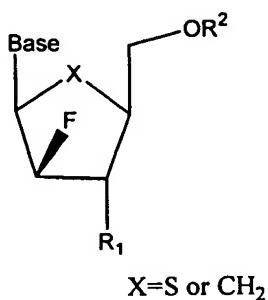
R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

20 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a

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pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

28. A method for the treatment of hepatitis C infection comprising administering to a patient in need thereof an effective treatment amount of a 2-fluoro- β -L-nucleoside of the formula:



wherein

Base is a purine or pyrimidine base;

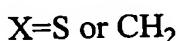
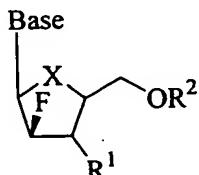
R^1 is OH, H, OR³, N₃, CN, halogen, CF₃, lower alkyl, amino, loweralkylamino, di(lower)alkylamino;

R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a

5 pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

29. A method for the inhibition of HIV comprising administering to a host in need thereof an effective treatment amount of a 2'-fluoro- β -L-nucleoside of the formula:



wherein

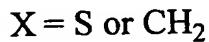
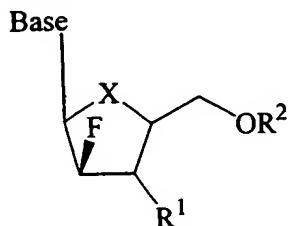
Base is a purine base;

R^1 is OH, H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino, or di(lower)alkylamino;

15 R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

20 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

30. A method for the treatment of abnormal cellular proliferation in humans comprising administering to a host in need thereof an effective treatment amount of a 2'-fluoro- β -L-nucleoside of the formula:



10

wherein

Base is a purine or pyrimidine base;

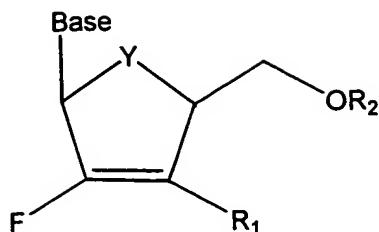
R^1 is H, OR^3 , N_3 , CN, halogen, CF_3 , lower alkyl, amino, loweralkylamino, or di(lower)alkylamino;

R^2 is H, monophosphate, diphosphate, triphosphate, or a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

15

R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof, optionally in combination with a pharmaceutically acceptable carrier.

5
31. A 2'-fluoro- β -L-nucleoside of the formula:



wherein

Base is a purine base;

10 R¹ is OR³, N₃, CN, CF₃, lower alkyl, amino, loweralkylamino, or di(lower)alkylamino;

R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

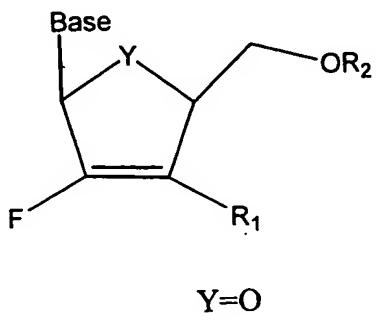
15 R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof.

20

32. The 2'-fluoronucleoside of claim 31, wherein the base is a purine base, R² is hydrogen, monophosphate, diphosphate, triphosphate or acyl, or a pharmaceutically acceptable salt thereof.

33. The 2'-fluoronucleoside of claim 31, wherein the purine base is selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

0 34. A pharmaceutical composition comprising an effective treatment amount of a 2'-fluoro-
β-L-nucleoside of the formula:



wherein

Base is a purine base;

15 R¹ is OR³, N₃, CN, CF₃, lower alkyl, amino, loweralkylamino, or di(lower)alkylamino;

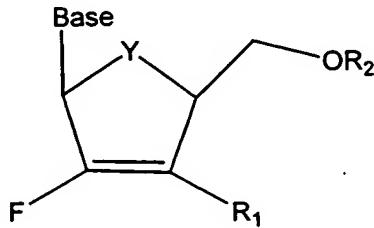
R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate, a lipid, an amino acid, peptide, or cholesterol; and

20 R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a

5 pharmaceutically acceptable salt thereof, together with a pharmaceutically acceptable carrier.

10 35. The composition of claim 34, wherein the purine base is selected from the group consisting of guanine, adenine, hypoxanthine, 2,6-diaminopurine and 6-chloropurine, or a pharmaceutically acceptable salt thereof.

15 36. A method for the treatment of hepatitis B infection comprising administering to a patient in need thereof an effective treatment amount of a 2'-fluoro-(β -D or β -L)-nucleoside of the formula:



15 wherein

Base is a purine base;

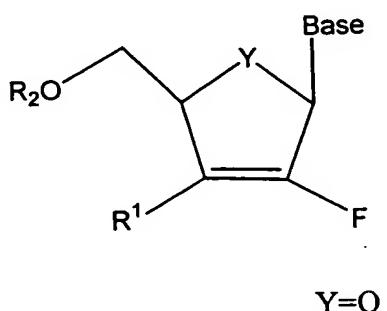
R¹ is OR³, N₃, CN, CF₃, lower alkyl, amino, loweralkylamino, or di(lower)alkylamino;

20 R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino,

arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and R³ is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof.

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37. A method for the treatment of hepatitis C infection comprising administering to a patient in need thereof an effective treatment amount of a 2'-fluoro-nucleoside of the formula:



wherein

15 Base is a purine or pyrimidine base;

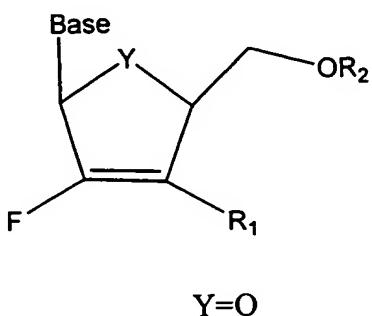
R¹ is OH, OR³, N₃, CN, CF₃, lower alkyl, amino, loweralkylamino, or di(lower)alkylamino, and base refers to a purine or pyrimidine base;

R² is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*,

20 is capable of providing a compound wherein R² is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

5 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof.

38. A method for inhibiting the replication of HIV comprising administering to a patient in need thereof an effective treatment amount of a 2'-fluoro- β -L-nucleoside of the formula:



wherein

Base is a purine base;

R^1 is OR^3 , N_3 , CN , CF_3 , lower alkyl, amino, loweralkylamino, or di(lower)alkylamino;

15 R^2 is H, monophosphate, diphosphate, triphosphate, a stabilized phosphate prodrug, acyl, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of providing a compound wherein R^2 is H or phosphate; sulfonate ester, benzyl, wherein the phenyl group is optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate; a lipid, an amino acid, peptide, or cholesterol; and

20 R^3 is acyl, alkyl, phosphate, or other pharmaceutically acceptable leaving group which when administered *in vivo*, is capable of being cleaved to the parent compound, or a pharmaceutically acceptable salt thereof.

39. The 2'-fluoro- β -D or β -L-nucleoside of claim 25, wherein R¹ and R² are hydrogen.

40. The pharmaceutical composition of claim 16, wherein R¹ and R² of the 2'-fluoro- β -L-nucleoside are hydrogen.

10

41. The method of claim 18, wherein R¹ and R² of the 2'-fluoro- β -L-nucleoside are hydrogen.

42. The method of claim 20, wherein R¹ and R² of the 2'-fluoro- β -L-nucleoside are hydrogen.

15

43. The method of claim 21, wherein X of the 2'-fluoro-nucleoside is S.

44. The 2'-fluoro- β -L-nucleoside of claim 22, wherein R¹ and R² are hydrogen.

20

45. The pharmaceutical composition of claim 25, wherein R¹ and R² of the 2'-fluoro- β -L-nucleoside are hydrogen.

46. The method of claim 27, wherein R¹ and R² of the 2'-fluoro- β -L-arabinonucleoside are hydrogen.

25

47. The method of claim 29, wherein R¹ and R² of the 2'-fluoro- β -L-arabinonucleoside are hydrogen.

48. The method of claim 30, wherein X of the 2'-fluoro- β -L-arabinonucleoside is CH₂.

0 49. The 2'-fluoro- β -D or β -L-nucleoside of claim 13, wherein R¹ is OH or OR³.

50. The pharmaceutical composition of claim 16, wherein R¹ of the 2'-fluoro- β -L-nucleoside is OH or OR³.

15 51. The method of claim 18, wherein R¹ of the 2'-fluoro- β -L-nucleoside is OH or OR³.

52. The method of claim 20, wherein R¹ of the 2'-fluoro- β -L-nucleoside is OH or OR³.

53. The 2'-fluoro- β -L-nucleoside of claim 22, wherein R¹ is OH or OR³.

20 54. The pharmaceutical composition of claim 25, wherein R¹ of the 2'-fluoro- β -L-nucleoside is OH or OR³.

55. The method of claim 27, wherein R¹ of the 2'-fluoro- β -L-arabinonucleoside is OH or OR³.

25

5 56. The method of claim 27, wherein R¹ of the 2'-fluoro- β -L-arabinonucleoside is OH or
OR³.